

IN THE CLAIMS

1. (Currently Amended) A method of reducing plating in a pneumatic conveying system and preventing screen blinding in the comminuting/pulverizing of polyurethane-containing materials to produce fine particles, comprising:

chopping the polyurethane-containing materials, thereby producing a polyurethane-containing flock;

~~processing further~~ grinding and sifting said polyurethane-containing flock comprising particles through at least one input of a comminuting/pulverizing process having an output; ~~wherein said comminuting/pulverizing process has at least two steps, said at least two steps further comprising a grinding step and a sifting step; and~~

adding a selected amount of a solid additive at any time during the comminuting/pulverizing process.

2. (Currently Amended) The method according to claim 1, wherein said polyurethane-containing materials are polyurethane foam.

3. (Currently Amended) The method according to claim 1, wherein said solid additive is added at said at least one input of said comminuting/pulverizing process with said polyurethane-containing materials.

4. (Currently Amended) The method according to claim 1, wherein said solid additive is added at said output of said comminuting/pulverizing process with said polyurethane-containing particles.

5. (Currently Amended) The method according to claim 1, wherein said solid additive is added ~~during~~ to a recirculation loop that returns oversized polyurethane-containing materials to a mill for continued comminution.

Application No. 10/649,593

6. (Currently Amended) The method according to claim 1, wherein said solid additive is approximately 0.5 microns to 200 microns in size.

7. (Currently Amended) The method according to claim 1, wherein said solid additive is approximately 0.2 mm to 5 mm in size.

8. (Currently Amended) The method according to claim 1, wherein said solid additive is electrically conductive.

9. (Currently Amended) The method according to claim 8, wherein said electrically conductive solid additive is chosen from the group consisting of carbon black, graphite, flaked metals, powdered metals, conductive metal oxides and electrically insulating materials coated with tin oxide.

10. (Currently Amended) The method according to claim 1, wherein said solid additive is electrically insulating.

11. (Currently Amended) The method according to claim 10, wherein said electrically insulating solid additive is chosen from the group consisting of hydrous silicate, silica and fumed silica, fly ash, metal-stearate salt, metal-carbonate salt, metal-sulfate salt, zeolite, melamine, molecular sieve, clay, fluoropolymer, zinc oxide, and titanium diboride.

12. (Currently Amended) The method according to claim 1, wherein said solid additive is added in an amount of approximately between 500 ppm and 40 % by weight.

13. (Currently Amended) The method according to claim 1, wherein said solid additive is added in an amount of approximately between 0.1 and 30 % by weight.

14. (Currently Amended) The method according to claim 1, wherein said solid additive is added in an amount of approximately between 0.2 and 10 % by weight.

Application No. 10/649,593

15. (Currently Amended) The method according to claim 1, wherein said comminuting/pulverizing ~~has at least two steps further comprising~~ further comprises :

a grinding step ~~having two inputs and an output, wherein a first input is an feed input and a second input is a feedback input;~~, wherein the grinding step has a first feed input, a second feedback input and an output; and

a separation ~~sifting~~ step ~~having an input and two outputs, wherein an input is coupled to an output of said grinding step, and a first output is a product output, and a second output is a feedback output coupled to said feedback input of said grinding step;~~ wherein the sifting step has a sifting step input coupled to the output of the grinding step and wherein a first sifting output is a product output and wherein a second sifting output is a feedback output coupled to the feedback input of the grinding step.

16. (Currently Amended) The method according to claim 15, wherein said comminuting/pulverizing process further comprises a conveying system step between said grinding step and said ~~separating~~ sifting step.

17. (Currently Amended) The method according to claim 15, wherein said ~~separating~~ sifting step further comprises a sifter having at least one screen.

Claims 18-23. (Cancelled)

24. (Currently Amended) A method of reducing plating in a pneumatic conveying system and preventing screen blinding in the comminuting/pulverizing of polyurethane-containing materials to produce fine particles comprising:

chopping the polyurethane-containing materials, thereby producing a polyurethane-containing flock;

Application No. 10/649,593

~~processing further grinding and sifting~~ said polyurethane-containing flock through at least one input of a comminuting/pulverizing process having an output, ~~wherein said comminuting/pulverizing process has at least two steps, said at least two steps further comprising a grinding step and a sifting step; and~~

adding a selected amount of hydrous silicate at any time during the comminuting/pulverizing process such that the selected amount of hydrous silicate produces a polyurethane-containing material comprising particles with a maximum particle size that is less than or equal to a selected size of a screen opening in a selected sifter.

25. (Currently Amended) The method according to claim 24, wherein said polyurethane-containing materials are polyurethane foam.

26. (Currently Amended) The method according to claim 24, wherein said hydrous silicate is added at said at least one input of said comminuting/pulverizing process with said polyurethane-containing materials.

27. (Currently Amended) The method according to claim 24, wherein said hydrous silicate is added at said output of said comminuting/pulverizing process with said polyurethane-containing particles.

28. (Currently Amended) The method according to claim 24, wherein said hydrous silicate is added during a recirculation loop that returns oversized polyurethane-containing materials to a mill for continued comminution.

29. (Currently Amended) The method according to claim 24, wherein said hydrous silicate is approximately 0.5 microns to 200 microns in size.

30. (Currently Amended) The method according to claim 24, wherein said hydrous silicate is approximately 0.2 mm to 5 mm in size.

Application No. 10/649,593

31. (Currently Amended) The method according to claim 24, wherein said hydrous silicate is added in an amount of approximately between 500 ppm and 40 % by weight.

32. (Currently Amended) The method according to claim 24, wherein said hydrous silicate is added in an amount of approximately between 0.1 and 30 % by weight.

33. (Currently Amended) The method according to claim 24, wherein said hydrous silicate is added in an amount of approximately between 0.2 and 10 % by weight.

34. (Currently amended) The method according to claim 24, wherein said comminuting/pulverizing ~~has at least two steps further comprising~~ further comprises :

~~a grinding step having two inputs and an output, wherein a first input is an feed input and a second input is a feedback input;~~ wherein the grinding step has a first feed input, a second feedback input and an output; and

~~a separation sifting step having an input and two outputs, wherein an input is coupled to an output of said grinding step, and a first output is a product output, and a second output is a feedback output coupled to said feedback input of said grinding step.,~~ wherein the sifting step has a sifting step input coupled to the output of the grinding step and wherein a first sifting output is a product output and wherein a second sifting output is a feedback output coupled to the feedback input of the grinding step.

35. (Currently Amended) The method according to claim 34, herein said comminuting/pulverizing process further comprises a conveying system step between said grinding step and said ~~separating~~ sifting step.

36 (Currently Amended) The method according to claim 34, herein said ~~separating~~ sifting step further comprises a sifter having at least one screen.

Claims 37-42. (Cancelled)

Application No. 10/649,593

43. (New) A method of preventing screen blinding in the comminuting/pulverizing of polyurethane-containing materials to produce fine particles comprising:

adding a selected amount of solid additive at any time during the comminuting/pulverizing process such that the selected amount of a solid additive produces a polyurethane-containing material comprising particles with a maximum particle size that is less than or equal to a selected size of a screen opening of a selected sifter.

44. (New) The method according to claim 43, wherein 95% by weight of the particles are less than 250 microns.

45. (New) The method according to claim 43, wherein the addition of electrically insulating solid additives neutralizes a static electric charge of a particle in the polyurethane-containing mixture reducing adherence of particles to the screens.

46. (New) The method according to claim 43, wherein the addition of electrically conductive solid additives inhibits tribocharging of the polyurethane containing materials reducing adherence of particles to the screens.

47. (New) The method according to claim 1, wherein 95% by weight of the particles are less than 250 microns.

48. (New) The method according to claim 1, wherein an addition of electrically insulating solid additives neutralizes a static electric charge of a particle in the polyurethane-containing mixture reducing adherence of particles to the screens.

49. (New) The method according to claim 1, wherein an addition of electrically conductive solid additives inhibits tribocharging of the polyurethane containing materials reducing adherence of particles to the screens.

Application No. 10/649,593

50. (New) The method according to claim 1, wherein the solid additive is added at a mill after the polyurethane materials are returned to the mill.

51. (New) The method according to claim 24, wherein 95% by weight of the particles are less than 250 microns.

52. (New) The method according to claim 24, wherein the addition of electrically insulating solid additives neutralizes a static electric charge of a particle in the polyurethane-containing mixture reducing adherence of particles to the screens.

53. (New) The method according to claim 24, wherein the addition of electrically conductive solid additives inhibits tribocharging of the polyurethane containing materials reducing adherence of particles to the screens.

54. (New) The method according to claim 24, wherein the solid additive is added at a mill after the polyurethane materials are returned to the mill.